AMENDMENT

(Amendment under the regulation of Article 11)

Director-General of the Patent Office

1. Identification of the International Application

International Application No.PCT/JP03/03751

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4. Object to be Amended

Specification and Claims

5. Amendments

(1)We amend pages 4 and 6 of the specification so as to correspond to the amended claims.

(2)In claim 1, two points are clarified. One is that light deflection is caused by transmission, and the other is that light will not be wasted. In claim 10, the

point that the light source is provided with a reflector is clarified.

6. List of Attached Documents

Pages 4, 4/1, 6 of the specification, and pages 43,44, 44/1 of claims.

accuracy in the intermediate images. In the current technique, such intermediate images cannot be reliably produced.

With regard to a liquid crystal projector, JP-A-2002-6815 (G09G 3/36) discloses a method of scrolling light onto a panel using a condenser mirror. In a condensing system (a polygonal mirror) herein disclosed, however, light is scrolled by a reflecting function. When a projector is constructed, therefore, an optical system is made significantly large.

In view of the foregoing circumstances, an object of the present invention is to provide a projection type video display capable of improving degradation in image quality, in a case where a moving image is displayed, which is referred to as hold blurring, by scrolling light onto a hold type display element.

Disclosure of Invention

A projection type video display according to the present invention is characterized by comprising light deflecting means for circularly deflecting, in receiving irradiated light and transmitting the received light, the light; color separating means for separating the light into lights in the three primary colors and respectively introducing the lights into three hold type display

elements; projecting means for recombining image lights in the respective colors obtained through the hold type display elements and projecting the recombined image lights; and element driving means for feeding a pixel-driving signal to each of the hold type display elements, and characterized in that the amount of light which will be wasted in producing said circular deflection is reduced by utilizing at least one of the functions including condensing, more than twice reflecting, and refracting, and in that each of the lights in the respective colors condensed in smaller areas than those of the element are circularly scrolled on the hold type display elements.

In the above-mentioned configuration, on the hold type display elements, the lights in the respective colors condensed in the smaller areas than those of the elements are circularly scrolled. Therefore, the light is substantially intermittently irradiated onto the hold type display element, thereby making it possible to restrain hold blurring.

The element driving means may start to feed pixel-driving signals for the succeeding frame to pixels which are located at a position, through which an illuminating area passes, on each of the hold type display elements. This makes it easy to match the irradiation

There may be provided control means for detecting a difference between a frame period and a deflection period by the light deflecting means and carrying out correction control of the deflection period such that the difference is eliminated or occurs in a constant manner. This makes it possible to also cope with a case where the rotation precision of the light deflecting means is inconstant.

Such control that the luminance value of the pixel determined by a response of the pixel and a period of light irradiation onto the pixel in a case where the difference occurs is matched with a predetermined luminance value in a case where no difference occurs may be carried out. This makes it possible to overcome lack of response to the luminance change. In such a configuration, a pixel-driving signal set to higher level than the target value of the response of the pixel is fed to the pixel depending on the difference. Alternatively, the timing of feeding of the pixel-driving signal may be controlled depending on the difference.

There may be provided a rod prism for introducing light emitted from a light source with a reflector and condensed into the light deflecting means. The rod prism may have a tapered shape so as to reduce the dispersion of the light.

CLAIMS

1. (Amended) A projection type video display characterized by comprising:

light deflecting means for circularly deflecting, in receiving irradiated light and transmitting the received light, the light;

color separating means for separating the light into lights in the three primary colors and respectively introducing the lights into three hold type display elements;

projecting means for recombining image lights in the respective colors obtained through the hold type display elements and projecting the recombined image lights; and

element driving means for feeding a pixel-driving signal to each of the hold type display elements, and in that

the amount of light which will be wasted in producing said circular deflection is reduced by utilizing at least one of the functions including condensing, more than twice reflecting, and refracting, and in that the lights in the respective colors condensed in smaller areas than those of the element are circularly scrolled on the hold type display elements.

2. The projection type video display according to

any one of claims 1 to 5, characterized by comprising

control means for detecting a difference between a frame period and a deflection period by the light deflecting means and carrying out correction control of the deflection period such that the difference is eliminated or occurs in a constant manner.

7. The projection type video display according to claim 6, characterized in that

such control that the luminance value of the pixel determined by a response of the pixel and a period of light irradiation onto the pixel in a case where the difference occurs is matched with a predetermined luminance value in a case where no difference occurs is carried out.

8. The projection type video display according to claim 7, characterized in that

a value whose change is more greatly emphasized than the target value of the response of the pixel is set depending on the difference, to feed the pixel-driving signal.

9. The projection type video display according to claim 7, characterized in that

the timing of feeding of the pixel-driving signal is controlled depending on the difference.

10. (Amended) The projection type video display according to any one of claims 1 to 9, characterized by

further comprising

a rod prism for introducing light emitted from a light source with a reflector and condensed into the light deflecting means.

11. The projection type video display according to claim 10, characterized in that

the rod prism has a tapered shape so as to reduce the dispersion of the light.

12. The projection type video display according to any one of claims 1 to 11, characterized in that

the light deflecting means is constructed by rotatably providing a lens array wheel having a plurality of functional units each composed of a convex lens arranged in a disc shape along its circumference.

13. The projection type video display according to any one of claims 1 to 11, characterized in that

the light deflecting means is constructed by rotatably providing a prism.

14. The projection type video display according to any one of claims 1 to 11, characterized in that

the light deflecting means is constructed by rotatably providing a disc member having a light transmitter formed in a spiral shape and having a reflecting surface in an area other than the light transmitter.